reported the ice to be solid or dammed from McGulpin's Point to the main-land. "Flora" arrived at Mackinaw Island on the 21st; on this date the north channel was clear of ice. The propeller "Atlantic," the first boat of the season, passed through the south passage and no observations were made after that date. on the 25th. On the 28th the straits were open to navigation.

Green Bay on the 26th.

3d and 4th and from the 6th to 9th; ice dam on the 13th, the ice measuring twenty nine inches in thickness. The ice in tic coast for the same periods, shows that, with the exception Black river broke up on the 8th.

Detroit river.—Detroit, Michigan: drift-ice in river on 1st,

2d, 3d, 5th, 7th, 8th, and from 11th to 17th.

Lake Superior.—Marquette, Michigan, 19th: ice left the harbor during the morning of this date.

Embarras and Wolf rivers.—Embarras, Wisconsin: ice in

the Embarras and Wolf rivers broke up on the 11th.

Red River of the North.—Moorhead, Minnesota: the ice broke up on the 9th, and on the 16th, the river was clear of ice. On the 19th, the steamer "Pluck" left for points down the river, being the first boat of the season.

Saint Vincent, Minnesota: the ice broke up on the 19th.

Mississipi river.—La Crosse, Wisconsin, 4th: the ice broke up and formed a dam below the city, which broke during the morning of the 5th. The first steamer ("Minneapolis") of the season arrived from Saint Louis on the 6th.

Saint Paul, Minnesota, 6th: the ice-dam which formed below Wabasba street broke during the afternoon, the ice passing away without damage. The first steamer ("Mary Norton") from

Saint Louis arrived on the 20th.

Missouri river.—Fort Stevenson, Dakota: on the 9th, the ice broke along the shores, but remained firm in the channel. During the evening of the 10th, the ice broke up, but became dammed on the afternoon of the 11th. During the 11th and 12th the river rose rapidly, the ice causing considerable dam-The ice-dam broke during the evening of the 12th. first steamer ("Eclipse") of the season departed on the 18th. Tobacco Garden, Dakota, 15th: navigation resumed; first

departure on this date.

Bismarck, Dakota, 10th: the ice broke at 2.30 p. m. of this

date, and passed out without damage.

Fort Bennett, Dakota, 16th: the steamer "Roseburg," the first boat of the season, arrived at this date.

Fort Buford, Dakota: ice broke in the river at this place on the 10th.

Fort Sully, Dakota: the first steamer of the season arrived

from the lower Missouri on the 16th. Miscellaneous.—Pointe de Lac, Province of Quebec, 16th: the ice on Lake Saint Petre is still solid. At Three rivers, Province of Quebec, the ice was firm on the 16th, and at Batis-

can, Province of Quebec, the ice broke up on that date. Saint John's, Newfoundland, 28th: the Mississippi and Dominion Company's steamer "Ontario" passed Cape Race on the evening of the 27th, being the first ocean steamer sighted

this season, with the exception of boats calling at Saint John's.

during the night of the 9th.

disappeared from the lake on the 17th.

TEMPERATURE OF WATER.

The temperature of water as observed in rivers and harbors of the air at the various stations, are given in the table below.

ice began to loosen along the shores but remained solid in the 30th; Milwaukee, Wisconsin, from 1st to 15th; Buffalo, New channel. The steamer "Algomah" arrived on the 17th and York, from 1st to 6th; Escanaba, Michigan, from 1st to 18th; Chicago, Illinois, from 1st to 8th; Cleveland, Ohio, from 1st The steamers "City of Cleveland" and to 8th; Marquette, Michigan, from 1st to 18th; Detroit, Michigan, 1st, 2d, 13th, 14th, 15th; Duluth, Minnesota, from 1st to 7th. At Chicago, the thermometer was broken on the 25th,

the 25th. On the 28th the straits were open to navigation.

The highest observed temperatures of water during April,

Little Bay de Noquet.—Escavaba, Michigan: the bay became 1883, compared with those of April, 1882, show a decrease of clear of ice on the 24th and the tug "Shipman" arrived on the from 1° to 9° at stations along the Atlantic coast, between 25th. The first passenger steamer of the season arrived from Eastport, Maine, and Jacksonville, Florida, with the exception of the latter station, and Chincoteague, Virginia, where they Saint Clair river.—Port Huron, Michigan: floating ice on the were 1° higher than in April, 1882. A comparison of the lowest observed water temperatures at stations along the Atlanof Sandy Hook, New Jersey, and Portland, Maine, where they are a fraction of a degree higher, the temperatures are from 1° to 12°.5 lower than those of last year.

Temperature of Water for April, 1883.

Alpena, Michigan*	STATION.	Temperature at bottom,		Range.	Average depth,	Mean tempera- ture of the air at station.
Alpena, Michigan*		Max.	Min.		feet and inches.	Mean t ture of at sta
Augusta, Georgia. 70.0 58.0 12.0 13 0 54.5		O	٥	3	ft. in.	
Augusta, Georgia. 70.0 58.0 12.0 13 0 6.2. Baltimore, Maryland 54.5 41.5 13.0 9 10 52. Block Island, Rhode Island. 45.7 36.3 9.4 8 11 42.6 Boston, Massachusetts. 46.1 34.2 11.9 20 1 44. Buffalo, New York*. 50.3 33.4 16.9 9 8 40.2 Cedar Keys, Florida 82.0 68.0 14.0 9 16.6 64.0 61.1 40.0 64.0 61.1 40.0 64.0 61.0 76.1 40.0 64.0 61.0 76.1 40.0 64.0 61.0 76.0 64.0 61.0 76.0 64.0 61.0 76.0 64.0 64.1 33.1 13.0 14 45.0 64.1 33.1 13.0 14 44.5 56.0 64.1 33.1 13.0 14 44.2 34.2 81.1 15 46.1 47.5 34.0 13.5 </td <td>Alpena, Michigan*</td> <td>41.3</td> <td>30.5</td> <td>10.8</td> <td>10 11</td> <td>35.1</td>	Alpena, Michigan*	41.3	30.5	10.8	10 11	35.1
Baltimore, Maryland		70.0	58.0	12.0	13 0	64.5
Boston, Massachusetts.			41.5	13.0		52.1
Buffalo, New York* 50.3 33.4 16.9 9 8 40.0 60.0 68.0 14.0 9 10.7 6 14.0 9 10.7 6 14.0 0 64.0 68.0 14.0 9 10.7 6 11 40.0 64.0 64.0 10.7 6 11 45.0 14.0 9 10.7 6 11 45.0 14.0 9 10.7 6 11 45.0 14.0 14.0 14.0 14.0 14.0 18.0 5 11 49.0 14.0 18.0 5 11 49.0 14.0 18.0 5 11 49.0 14.0 18.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 13.0 14.0 13.0 14.0 13.0 14.0 13.0 14.0 13.0 14.0 13.0 14.0 13.0 </td <td></td> <td>45.7</td> <td></td> <td>9.4</td> <td>SII</td> <td>42.6</td>		45.7		9.4	SII	42.6
Cedar Keys, Florida	Boston, Massachusetts	46.I	34.2	11.9	20 I	44.3
Cedar Keys, Florida 82.0 68.0 14.0 9 10 72.0 Charleston, South Carolina 68.0 57.9 10.1 40 0 0.1 40 0 0.1 40 0 0.1 40 0 0.1 40 0 0.1 40 0 0.1 40 0 0.1 40 0 0.1 40 0 0.1 40 0 0.1 45.0 51 1 49.0 10.7 6 11 45.0 11 145.0 11 45.0 11 145.0 11 49.0 12.0 18.0 51 14 40.0 13.5 23 5 44.0 13.5 23 5 45.2 14.0 13.4 44.0 13.2 8.1 15.4 40.0 13.2 8.1 15.4 40.0 13.2 15.3 10.5 38.2 38.2 3.9 10 5 38.2 38.2 3.2 3.9 10 5 38.2			33.4	16.9	98	40,2
Charleston, South Carolina 68.0 57.9 10.1 40 6 4.6. Chicago, Illinois * 50.9 40.2 10.7 6 11 45.6 Chincoteague, Virginia 60.0 42.0 18.0 5 11 49.0 Cheveland, Ohio* 42.0 18.0 5 11 49.0 Cheveland, Ohio* 46.1 33.1 13.0 14 0 44.6 13.5 12.3 5 46.1 33.1 13.0 14 0 44.6 14.5 9 4 47.5 34.0 13.5 23 5 46.1 34.1 14.5 9 4 47.1 34.1 15 9 1 47.1 34.1 15 9 1 47.1 34.1 15 9 1 10.1 11 11 11 11 11 11 11 11 11 11 11 11 1	Cedar Keys, Florida		68.0			72.6
Chicago, Illinois * 50.9 40.2 10.7 6 11 45.6 Chicategue, Virginia 50.0 42.0 18.0 5 11 49.1 Chicategue, Virginia 50.0 42.0 18.0 5 11 49.1 Cleveland, Ohio * 42.0 18.0 5 11 49.1 49.1 49.1 49.1 49.1 49.1 49.1 4			57.9	10.1	40 0	64.0
Chincoteague, Virginia 60.0 42.0 18.0 5 11 49.0 Cleveland, Ohio* 46.1 33.1 13.0 14 0 44.0 Detroit, Michigan* 47.5 34.0 13.5 23 5 46.1 Delaware Breakwater, Delaware 53.9 39.4 14.5 9 4 47.2 33.2 8.1 15 4 40.2 46.2 33.2 8.1 15 4 40.2 40.2 33.2 6 3.9 16 5 38.6 38.9 16 5 38.6 39.9 16 5 38.6 39.9 16 5 38.6 38.9 16 5 38.6 39.9 16 5 38.6 39.9 16 5 38.6 39.9 16 5 38.6 38.0 60.5 12.0 18 0.0 30.0 14.0 13 8 70.0 65.0 12.0 18 0.0 70.1 42.2 33.2	Chicago, Illinois*	50.9	40.2	10.7	6 11	45.6
Cleveland, Ohio	Chincoteague, Virginia	00.0	42.0	18.0	5 11	49.1
Detroit, Michigan	Cleveland, Ohio*	46.1	33.1	13.0		44.0
Delaware Breakwater, Delaware 53.9 39.4 14.5 9 4 47.	Detroit, Michigan*	47.5		13.5		46.2
Duluth, Minnesota 42.3 34.2 8.1 15.4 40. Eastport, Maine 30.5 32.6 3.9 10.5 38. Escanaba, Michigan* 30.5 34.0 5.5 15.0 30. Galveston, Texas 75.0 61.0 14.0 13 8 70. Grand Haven, Michigan 55.1 37.1 19.0 19 0 44. Ludianola, Texas 77.5 64.5 13.0 9 5 71. Jacksonville, Florida 77.0 65.0 12.0 18 0 70. Key West, Florida 84.3 74.8 9.5 16 9 79. Mackinaw City, Michigan * 37.2 33.2 4.0 13 0 35. Marquete, Michigan * 35.0 37.0 1.0 9 10 36.5 Milwaukec, Wisconsin * 47.1 42.1 5.0 8 43. Mobile, Alabama 72.5 50.0 9.5 1		53.9		14.5		47.3
Eastport, Maine 30.5 32.6 3.9 16 5 38.6 Besenaba, Michigan* 39.5 34.0 5.5 15 0 30.5 34.0 5.5 15 0 30.5 34.0 5.5 15 0 30.5 30.0 14.0 13 8 70.0 60.0 14.0 13 8 70.0 60.0 12.0 18 0 70.1 18.0 9 71.1 30.0 9 71.2 30.0 12.0 18 0 70.1 18.0 70.0 65.0 12.0 18 0 70.1 18.0 70.1 18.0 70.1 18.0 70.1 18.0 70.1 18.0 70.1 19.0 19.0 44.0 13.0 30.0 70.0 18.0 70.0 18.0 70.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0	Duluth, Minnesota	42.3	34.2	8.1		40.3
Escanaba, Michigan* 39.5 34.0 5.5 15.0 36.7 Galveston, Texas 75.0 61.0 14.0 13 8 70.0 Grand Haven, Michigan 56.1 37.1 19.0 19 0 44.2 Indianola, Texas 77.5 64.5 13.0 9 5 71.0 18 0 70.1 18 0 70.1 18 0 70.1 18 0 70.1 18 0 70.1 18 0 70.1 18 0 70.1 18 0 70.1 18 0 70.1 18 0 70.1 18 0 70.1 18 0 70.1 14 13 0 35.2 40.1 13 0 35.2 40.1 13 0 35.2 40.1 13 0 35.5 Marquetete, Michigan* 38.0 37.0 1.0 9 10 43.4 40.1 42.1 40.1 42.1 40.1	Eastport, Maine	36.5	32.6	3.9	16 5	38.0
Galveston, Texas 75.0 61.0 14.0 13 8 70.0 Grand Haven, Michigan 56.1 37.1 19.0 19 0 44.2 Indianola, Texas 77.5 64.5 13.0 9 5 71. Jacksonville, Florida 84.3 74.8 9.5 16 9 79.2 Mackinaw City, Michigan * 37.2 33.2 4.0 13 0 35.5 Marquette, Michigan * 37.2 33.2 4.0 13 0 35.5 Milwaukee, Wisconsin * 47.1 42.1 5.0 8 0 35.6 Milwaukee, Wisconsin * 47.1 42.1 5.0 8 0 43.6 Mobile, Alabama 72.5 63.0 9.5 16 68.2 16 68.2 14.0 44.2 10 42.2 14 10 44.2 10 44.2 10 44.2 10 44.2 10 42.2 12 14 10 <t< td=""><td>Escanaba, Michigan*</td><td>39.5</td><td>34.0</td><td></td><td></td><td>30.2</td></t<>	Escanaba, Michigan*	39.5	34.0			30.2
Grand Haven, Michigan 56.1 37.1 19.0 19 0 44.1 Indianola, Texas 77.5 64.5 13.0 9 5 71.5 64.5 13.0 9 5 71.2 65.0 12.0 18 0 70.1 70.0 65.0 12.0 18 0 70.1 70.0	Galveston, Texas	75.0	61.0	14.0	13 8	70.6
Indianola, Texas	Grand Haven, Michigan	56.1	37.1	19.0	19 0	44.4
Jacksonville, Florida. 77.0 65.0 12.0 18 0 70.7 Key West, Florida. 84.3 74.8 9.5 16 9 79.2 Mackinaw City, Michigan * 37.2 33.2 4.0 13 0 35.0 Marquete, Michigan * 35.0 37.0 1.0 9 10 36.3 Milwaukee, Wisconsin * 47.1 42.1 5.0 8 43.4 Mobile, Alabama 72.5 63.0 9.5 16 16 68.8 New Haven, Connecticut 45.0 38.0 7.0 12 7 45.2 New York City 40.7 37.2 9.5 16 16 68.8 New York City 40.7 37.2 9.5 16 16 46.6 Norfolk, Virginia 61.0 47.0 14.0 17 55.8 Pensacola, Florida 75.8 65.9 9.9 18 3 36.8 Portland, Oregon 51.0 45.2 5.8 48.7 49.2 Portland, Oregon 51.0 <td< td=""><td>Indianola, Texas</td><td>77.5</td><td>64.5</td><td>13.0</td><td>9 5</td><td>71.3</td></td<>	Indianola, Texas	77.5	64.5	13.0	9 5	71.3
Key West, Florida 84.3 74.8 9.5 16 9 79.2 Mackinaw City, Michigan * 37.2 33.2 4.0 13 0 35.5 Marquette, Michigan * 38.0 37.0 1.0 9 10 36.5 Malwaukec, Wisconsin * 47.1 42.1 5.0 8 0 43. Mobile, Alabama 72.5 63.0 9.5 16 10 68.8 New Haven, Connecticut 50.3 30.1 14.2 14 14 14 14 14 14 14 14 14 14 14 14 14 16 48.2 18 16 16 8.2 18 16 16 46.6 18 16 16 46.6 16 14 17 0 55.8 16 16 16 16 16 16 17 18 3 18 2 18 5 14 17 10 16 16 <t< td=""><td>Jacksonville, Florida,</td><td>77.0</td><td>65.0</td><td>12.0</td><td>ıŝ o</td><td>70.1</td></t<>	Jacksonville, Florida,	77.0	65.0	12.0	ıŝ o	70.1
Mackinaw City, Michigan * 37.2 33.2 4.0 13 0 35.6 Marquette. Michigan * 35.0 37.0 1.0 9 10 36.6 Milwaukec, Wisconsin * 47.1 42.1 5.0 8 0 43.6 Mobile, Alabama 72.5 63.0 9.5 16 10 68.6 New Haven, Connecticut 50.3 30.1 14.2 14 10 44.2 New London, Connecticut 45.0 38.0 7.0 12 7 45.2 New York City 40.7 37.2 9.5 16 10 46.6 Norfolk, Virginia 61.0 47.0 14.0 17 0 55.8 Pensacola, Florida 75.8 65.9 9.9 18 3 68.2 18 5 44.7 Portland, Oregon 51.0 45.2 5.8 48 7 49.2 Portland, Oregon 51.0 45.2 5.8 48 7 49.2 Provincetown, Massachusetts 46.5 34.5 12.0 14 0 41.6 Punta Rassa, Florida 85.0 76.6 8.4 11 4 75.1 <tr< td=""><td>Key West, Florida</td><td></td><td>74.8</td><td>9.5</td><td>16 9</td><td>79.2</td></tr<>	Key West, Florida		74.8	9.5	16 9	79.2
Marqueite, Michigan **	Mackinaw City, Michigan *	37.2	33.2			35.9
Milwaukee, Wisconsin * 47.1 42.1 5.0 \$ 0 43.7 Mobile, Alabama. 72.5 63.0 9.5 16 10 68.8 New Haven, Connecticut. 50.3 30.1 14.2 14 10 44.2 New London, Connecticut. 45.0 38.0 7.0 12 7 45.2 New York City. 40.7 37.2 9.5 16 10 46.6 Norfolk, Virginia. 61.0 47.0 14.0 17 0 55.6 Pensacola, Florida. 75.8 65.9 9.9 18 3 08.5 Portland, Maine. 40.7 34.5 6.2 18 5 44.7 Portland, Oregon. 51.0 45.2 5.8 48 7 49.2 Provincetown. Massachusetts. 46.5 34.5 12.0 14 0 41.8 Punta Rassa, Florida. 85.0 70.6 8.4 11 4 75.1 Sam Francisco, California. 56.5 52.4 4.1 29 1 San Francisco	Marquette, Michigan *					
Mobile Alabama 72.5 63.0 9.5 16 10 68.8 New Haven, Connecticut 50.3 30.1 14.2 14 10 44.2 New London, Connecticut 45.0 38.0 7.0 12 7 45.2 New York City 40.7 37.2 9.5 16 46.6 16.6 14.0 17 0 55.8 46.9 14.0 17 0 56.2 18 54.2 70.7	Milwaukee, Wisconsin *	47.1		5.0	8 0	
New Haven, Connecticut. 50.3 36.1 14.2 14 to 44.2 New London, Connecticut. 45.0 38.0 7.0 12 7 45. New York City. 40.7 37.2 9.5 16 to 46.6 Norfolk, Virginia. 61.0 47.0 14.0 17 0 55.8 Pensacola, Florida. 75.8 65.9 9.9 18 3 08.5 Portland, Maine. 40.7 34.5 6.2 18 5 44.7 Portland, Oregon. 51.0 45.2 5.8 48 7 49.2 Provincetown. Massachusetts. 46.5 34.5 12.0 14 0 41.8 Punta Rassa. Florida. 85.0 76.6 8.4 11 4 75.1 Sandy Hook, New Jersey. 46.5 42.8 3.7 1 6 46.6 San Francisco, California. 56.5 52.4 4.1 29 1 52.4 Savannah, Georgia. 68.4 57.0 11.4 12 11 67.7 Smithville, North C	Mobile, Alabama		63.0		16 10	68.8
New London, Connecticut. 45.0 38.0 7.0 12 7 45.7 New York City. 40.7 37.2 9.5 16 10 46.6 Norfolk, Virginia. 61.0 47.0 14.0 17 0 55.8 Pensacola, Florida. 75.8 65.9 9.9 18 3 68.2 Portland, Maine. 40.7 34.5 6.2 18 5 44.7 Portland, Oregon 51.0 45.2 5.8 48 7 49.2 Provincetown, Massachusetts. 46.5 34.5 12.0 14 41.8 Punta Rassa. Florida 85.0 76.6 8.4 11 47.1 San Francisco, California 56.5 52.4 4.1 29 1 San Francisco, California 56.5 52.4 4.1 29 1 Sanithville, North Carolina 63.0 58.0 5.0 10 0 59.2 Toledo, Ohio. 58.3 37.8 20	New Haven, Connecticut					
New York City 40.7 37.2 9.5 16 10 46.6 Norfolk, Virginia. 61.0 47.0 14.0 17 55.8 Pensacola, Florida. 75.8 65.9 9.9 18 3 68.5 Portland, Maine. 40.7 34.5 6.2 18 5 44.7 Portland, Oregon. 51.0 45.2 5.8 48 7 49.2 Provincetown, Massachusetts. 46.5 34.5 12.0 14 0 41.5 Punta Rassa, Florida 85.0 76.6 8.4 11 4 75.1 Sandy Hook, New Jersey. 46.5 42.8 3.7 1 6 46.5 San Francisco, California 56.5 52.4 4.1 29 1 52.4 Savannah, Georgia 68.4 57.0 11.4 12 11 67.7 Smithville, North Carolina 63.0 58.0 5.0 10 0 59.2 Toledo, Ohio.	New London, Connecticut,					
Norfolk, Virginia. 61.0 47.0 14.0 17 0 55.6 Pensacola, Florida. 75.8 65.9 9.9 18 3 08.5 Portland, Maine. 40.7 34.5 6.2 18 5 44.7 Portland, Oregon. 51.0 45.2 5.8 48 7 49.2 Provincetown. Massachusetts. 46.5 34.5 12.0 14 0 41.8 Punta Rassa, Florida. 85.0 76.6 8.4 11 4 75.1 San Francisco, California. 56.5 52.4 4.1 29 1 52.4 Savannah, Georgia. 68.4 57.0 11.4 12 11 07.7 Smithville, North Carolina. 63.0 58.0 5.0 10 0 59.2 Toledo, Ohio. 58.3 37.8 20.5 11 3 47.4	New York City					46.6
Pensacola, Florida. 75.8 65.9 9.9 18 3 08.2 Portland, Maine. 40.7 34.5 6.2 18 5 44.7 Portland, Oregon. 51.0 45.2 5.8 48 7 49.2 Provincetown, Massachusetts. 46.5 34.5 12.0 14 0 41.8 Punta Rassa, Florida. 85.0 76.6 8.4 11 4 75.1 San Francisco, California. 56.5 52.4 4.1 29 1 52.4 Savannah, Georgia. 68.4 57.0 11.4 12 11 67.7 Smithville, North Carolina. 63.0 58.0 5.0 10 59.2 Toledo, Ohio. 58.3 37.8 20.5 11 3 47.4	Norfolk, Virginia					
Portland, Maine 40.7 34.5 6.2 18 5 44.7 Portland, Oregon 51.0 45.2 5.8 48 7 49.2 Provincetown, Massachusetts 46.5 34.5 12.0 14 0 41.6 Punta Rassa, Florida 85.0 76.6 8.4 11 4 75.1 Sandy Hook, New Jersey 46.5 42.8 3.7 1 6 46.6 San Francisco, California 56.5 52.4 4.1 29 1 52.4 Savannah, Georgia 68.4 57.0 11.4 12 11 67.7 Smithville, North Carolina 63.0 58.0 5.0 10 0 59.2 Toledo, Ohio 58.3 37.8 20.5 11 3 47.4	Pensacola, Florida	75.8				
Portland, Oregon 51.0 45.2 5.8 48.7 49.2 Provincetown. Massachusetts 46.5 34.5 12.0 14 0 41.8 Punta Rassa, Florida 85.0 76.6 8.4 11 4 75.1 Sand Handelson, New Jersey 46.5 42.8 3.7 1 6 46.6 San Francisco, California 56.5 52.4 4.1 29 1 24.2 34.2 <td>Portland, Maine</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Portland, Maine					
Provincetown, Massachusetts. 46.5 34.5 12.0 14 0 41.8 Punta Rassa, Florida 85.0 76.6 8.4 11 475.1 Sandy Hook, New Jersey 46.5 42.9 3.7 1 6 46.6 San Francisco, California 56.5 52.4 4.1 29 1 52.4 Savannah, Georgia 68.4 57.0 11.4 12 11 67.7 Smithville, North Carolina 63.0 58.0 5.0 10 0 59.2 Toledo, Ohio 58.3 37.8 20.5 11 3 47.4	Portland, Oregon			5.8		
Punta Rassa, Florida 85.0 76.6 8.4 11 4 75.1 Sandy Hook, New Jersey 46.5 42.8 3.7 1 6 46.6 San Francisco, California 55.5 52.4 4.1 29 1 52.4 Savannah, Georgia 68.4 57.0 11.4 12 11 67.7 Smithville, North Carolina 63.0 58.0 5.0 10 0 59.2 Toledo, Ohio. 58.3 37.8 20.5 11 3 47.4	Provincetown, Massachusetts					
Sandy Hook, New Jersey 46.5 42.8 3.7 1 6 46.6 San Francisco, California 56.5 52.4 4.1 29 1 52.4 Savannah, Georgia 68.4 57.0 11.4 12 11 67.7 Smithville, North Carolina 63.0 58.0 5.0 10 0 59.2 Toledo, Ohio 58.3 37.8 20.5 11 3 47.4	Punta Rassa, Florida					75.1
San Francisco, California 56.5 52.4 4.1 29 I 52.4 Savannah, Georgia 68.4 57.0 I1.4 12 II 67.2 Smithville, North Carolina 63.0 58.0 5.0 10 0 59.2 Toledo, Ohio 58.3 37.8 20.5 II 3 47.4	Sandy Hook, New Jersey					46.6
Savannah, Georgia 68.4 57.0 11.4 12 11 57.7 Smithville, North Carolina 63.0 58.0 5.0 10 0 59.2 Toledo, Ohio 58.3 37.8 20.5 11 3 47.4	San Francisco, California				1	
Smithville, North Carolina 63.0 58.0 5.0 10 0 59.2 Toledo, Ohio 58.3 37.8 20.5 11 3 47.4	Savannah, Georgia					
Toledo, Ohio	Smithville, North Carolina					
	Toledo, Ohio					
	Wilmington, North Carolina	65.5	49.0	16.5	13 0	61.3

^{*}Observations incomplete. See text.

ATMOSPHERIC ELECTRICITY.

AURORAS.

The auroral display which occurred during the evening of April 3d, was generally observed in Canada, New England, the lower lake region, and at a few of the most northerly stations in the middle Atlantic states. At most of the stations where Bangor, Maine: the ice in Kenauskeag springs passed out this display was observed, it was of ordinary brilliancy. At Eastport, Maine, it was visible from 7 p. m. until the early Wicklow, Dakota: ice began to break up on the 14th and morning of the 4th, and consisted of a low arch extending from north-northwest to northeast. Several streamers of whitish color tinged with crimson appeared between the north and northeast.

At Freehold, New Jersey, this display was observed at 7.30 at the Signal Service stations, with the average depth at p. m., in the form of a white glow, with several long narrow which the observations were made, and the mean temperature streamers. It faded away at 8.30 and reappeared at 10 p. m. The only western stations reporting auroras on the evening of Observations were interrupted by ice at the following stations: the 3d were Saint Vincent, Minnesota, and Dayton, Washing-Mackinaw City, Michigan, from 1st, to 17th, and from 21st to ton Territory. At the latter station, it was described as